74-11

10/15 .A8 074-
66

Foreign Fisheries Leaflet No. 74-11

Japanese Tuna Industry

OCT 1 1974
WILDLIFE SERVICE

Lorry M. Nakatsu and Yoshio Nasaka

Office of International Fisheries
WASHINGTON, D.C.
October 1974

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / National Marine Fisheries Service

Digitized by the Internet Archive
in 2025

https://archive.org/details/foreign-fisheries-leaflet_1974-10_74-11

JAPANESE TUNA INDUSTRY

Contents

	Page
Japanese Government policy on tuna fisheries management	1
Early fisheries promotion law (1897) to end of War (1945)	1
Fishing area restriction after the War, 1945-49	1
New Fisheries Law, 1949-52	2
Expansion of fisheries, 1952	2
Termination of expansionism, 1952-55	2
Tuna and skipjack fisheries Advisory Council, 1956-60	3
Salmon to tuna boats, 1960	3
Additional licenses, 1962	3
Modifications in fisheries law, 1962	3
Skiff-carrying motherships	3
"Kinkai" tuna and skipjack fisheries, 1963	4
The 1964-72 Era	4
Renewal of license, 1972	4
Japanese Government subsidy programs since 1950	4-6
Technological advances in the Japanese tuna industry since mid-1950's	6
Tuna fishing	6
a. Line	6
b. Labor-saving machines	6
c. Freezing	6
Skipjack fishing	6
a. Rod	6
b. Line	6
c. Brine freezing	7
d. Automatic jigging machine	7
e. Holding of live bait	7

JAPANESE TUNA INDUSTRY

Lorry M. Nakatsu and Yoshio Nasaka

JAPANESE GOVERNMENT POLICY ON TUNA FISHERIES MANAGEMENT

Early fisheries promotion law (1897) to end of War (1945)

The Japanese Government, under the Law for Promotion of High Seas Fisheries which entered into effect in 1897, has encouraged the construction of tuna and skipjack fishing vessels (as well as other fishing vessels) by extending government incentives. In 1939 (prior to the Second World War), there were 868 tuna and skipjack fishing vessels (aggregate of 53,478 gross tons) consisting mostly of skipjack pole-and-line vessels, of which 30 percent were engaged in tuna longlining simultaneously. Vessels exclusively engaged in tuna longlining made their appearance that year, although their numbers were small. At this time, the tuna and skipjack fisheries were not regulated. However, as a result of shortages of materials and facilities caused by the outbreak of the war, vessels over 20 gross tons became subject to Government controls in 1942.

Fishing Area Restriction After the War, 1945-49

The history of the entire Japanese fisheries after the war can be divided into three periods: (a) rehabilitation until 1952 when the San Francisco Peace Treaty came into effect, (b) expansion until about 1960, and (c) structural improvements (in management, operations, physical facilities, etc.) with high economic growth.

Immediately after the war, the Occupation Forces severely restricted the construction of fishing vessels and vessel operations. On September 14, 1945, only wooden fishing vessels were permitted to operate within 12 miles off the Japanese coast. On September 27 of that same year, offshore fishing was allowed.

The need for knowing the actual status of this type of fisheries since the end of the war prompted the Government in September 1946 to implement "Regulations on Control of Tuna and Skipjack Fisheries." The regulations provided that "fishermen and vessels engaged in tuna, skipjack, billfish and shark fisheries with pole-and-line gear and with longline gear shall be licensed by the Agriculture and Forestry Minister."

Lorry M. Nakatsu is the Regional Fisheries Attache, and Yoshio Nasaka is the Economic Adviser (Fisheries) at the U.S. Embassy in Tokyo.

By the end of the war, Japan had lost 60 percent of the tuna and skipjack fishing vessels she had before the war; only 306 tuna and skipjack fishing vessels survived. Fishermen who lost their fishing grounds in the Northwest Pacific and fishermen repatriated from foreign countries wanted to fish for tuna and skipjack. On the other hand, facilities for the construction of vessels and funds were scarce. At this stage in 1947, the Government had to control new entries and limit the size of vessels to be built. In 1949, the Government authorized the transfer of tuna and skipjack fishing licenses and the construction of bigger boats under a scrap-and-build basis. In 1950, the Government approved the construction of larger vessels without scrapping existing vessels; however, they had to be equipped with freezing facilities.

New Fisheries Law, 1949-52

Under the new Fisheries Law (Law No. 267) of December 15, 1949, (1) tuna and skipjack fishing by vessels over 100 gross tons became a designated high-seas fisheries called "Enyo (distant water) Tuna and Skipjack Fisheries" subject to control by the Minister of Agriculture and Forestry. Under the new law, vessels between 20 and 100 gross tons were grouped into "Medium-Scale Tuna and Skipjack Fisheries." As a designated high-seas fisheries, "Enyo Tuna and Skipjack Fisheries" were subject to: (1) limited entry (restrictions placed on total number of licenses issued) and (2) controls placed on (a) new vessel construction (through replacement system) and (b) transfer of fishing licenses. In addition, new entries were permitted depending on the qualifications of new applicants; one qualification was the applicant's financial status. In 1950, the total number of licenses for Enyo Tuna and Skipjack Fisheries was limited to 300.

Expansion of Fisheries, 1952

With the Peace Treaty soon to come in effect and with the abolishment of the MacArthur Line, Japanese fishing vessels were in a position to expand their operations in 1952. In March of that year, the Government began to encourage fishermen to build new boats. Some actions taken by the Government included: (1) licensed distant-water fishermen (as of December 1, 1952) were permitted to build new and bigger boats without scrapping used boats, and (2) licensed fishermen in the "Medium-Scale Tuna and Skipjack Fisheries" who operated 95 to 100 gross ton boats as of December 1, 1952, were allowed to build bigger boats of less than 150 gross tons without scrapping used vessels. As a result of these measures, the number of boats in the tuna fisheries increased considerably.

Termination of Expansionism, 1952-55

Exports of canned tuna had increased rapidly since the end of the war, but United States demand for Japanese canned tuna tended to decline following the Bikini Incident (Japanese fishermen on board a tuna vessel suffered from fallout from a hydrogen bomb) in March 1954. It therefore became necessary to develop other export markets and to expand domestic consumption. To do this, it was necessary to maintain optimum fish price and stability in the tuna industry. Accordingly, the Government switched its policy in 1955 from expansionism to slowing down the growth of the industry.

Tuna and Skipjack Fisheries Advisory Council, 1956-60

In accordance with recommendations submitted on December 1, 1956, by the Tuna and Skipjack Fisheries Advisory Council to stabilize the tuna and skipjack industries, the Government transferred the authority to issue licenses for 248 boats in the 20-to 40-gross ton category from the Minister of Agriculture and Forestry to the prefectural governors. The Government also permitted Japanese tuna boats which began fishing in the Atlantic since late 1956 to land their catches at foreign ports bordering the Atlantic Ocean.

Salmon to Tuna Boats, 1960

In 1960, following the annual Japan-Soviet fisheries negotiations, the Japanese high-seas mothership salmon fleets were reduced from 16 to 12 and the displaced salmon catcherboats were permitted to engage in the "Medium-Scale Tuna and Skipjack Fisheries."

Additional Licenses, 1962

Additional licenses for "Medium-Scale Tuna and Skipjack Fisheries," totaling in aggregate 20,000 gross tons, were issued in 1962 for the purpose of (1) promoting the coastal fisheries, (2) encouraging tuna fishing based at foreign ports, (3) eliminating gear conflict with other types of domestic fisheries (some purse seiners and draggers were allowed to switch to tuna fishing), and (4) promoting the conservation of resources (some gill netters fishing for cherry salmon in the Japan Sea were permitted to switch to tuna fishing).

Modifications in Fisheries Law, 1962

The Fisheries Law and related regulations were revised on September 11, 1962 (effective February 1, 1963). The revision provided that "fishing by powered vessels over 40 gross tons (effective from 1964, over 50 gross tons) for tuna, skipjack, billfish and shark with longline or pole-and-line shall be designated as Enyo Tuna and Skipjack Fisheries." In other words, the "Enyo" (vessels over 100 tons) and "Medium-Scale" fisheries (vessels between 40 and 100 gross tons) were grouped into one category to improve government control. Vessels under 40 gross tons remained under the control of prefectural governors. Vessels under the new "Enyo" category were classified by size into five categories: 40 to 70, 70 to 100, 100 to 240, and over 240 gross tons.

Skiff-Carrying Motherships

During the period of expansionism in 1953-55, "Enyo" tuna fishing vessels with skiffs made their appearance. Since this type of fisheries tended to lead to an increase in fishing effort, the Government passed a regulation on May 15, 1961, to control their operations by limiting the number and tonnage of skiffs that a mothership could carry and defining their fishing area (the Pacific Ocean east of longitude 130° W, the Atlantic Ocean, and the Indian Ocean).

"Kinkai" Tuna and Skipjack Fisheries, 1963

Vessels ranging from 20 to 40 gross tons increased in numbers, and their operations expanded after they became free from regulations in June 1957. Most of the vessels in this category were 39 gross tons. On December 7, 1963, the Government announced a revision in the Fisheries Law (effective immediately) that "fishing for tuna, skipjack, billfish and shark with longline and pole-and-line by vessels ranging from 20 to 50 gross tons shall be subject to licensing by the Minister of Agriculture and Forestry under the name 'Kinkai' (Near Seas) Tuna and Skipjack Fisheries in the Pacific Ocean north of Latitude 10 degress north and west of 160 degrees East Longitude." A total of 1,850 vessels were licensed for "Kinkai" fisheries on June 29, 1964.

(Note: The 1,850 licenses include those issued to fishermen who did not own vessels but wished to begin fishing. These licenses were good until August 31, 1972. See item on renewal.)

The 1964-72 Era

Except for the appearance of American-type purse seiners and voluntary restrictions on fishing for southern bluefin tuna enforced by the Federation of Japan Tuna Fisheries Cooperative Associations (NIKKATSUREN) in 1971, there was no drastic change in the domestic policy of the Japanese Government for tuna fishing between 1964 and 1972, although there were several international developments affecting the Japanese tuna fishing industry, such as the establishment of a yellowfin tuna quota by the Inter-American Tropical Tuna Commission and the establishment of a new international Atlantic tuna commission (International Convention for the Conservation of Atlantic Tunas), and the conclusion of bilateral agreements with Australia, United States, Indonesia, and Mexico.

Renewal of License, 1972

Fishing licenses were renewed on September 1, 1972. The number of Japanese tuna and skipjack fishing vessels issued licenses totaled 11 skiff-carrying mothership-type (plus 24 skiffs), 1,247 "Enyo", and 1,342 "Kinkai" vessels.

JAPANESE GOVERNMENT SUBSIDY PROGRAMS SINCE 1950

1947 Reconstruction Finance Bank was established by Japanese Government and began extending loans to industries including fisheries. Eighty percent of fisheries loans made by the Bank was for construction of tuna-skipjack fishing vessels, whaling vessels, and otter trawlers for fishing in the area west of 130°E.

1948 Fisheries Cooperatives Law came into effect.

1949 Cooperatives began extending loans. New Fisheries Law (Law No. 267 of December 15, 1949) enacted.

1949 Reconstruction Finance Bank ceased function.

1951 Development Bank of Japan (which is still in existence and is extending loans to industries including fisheries) established by Japanese Government to replace Reconstruction Finance Bank.

1952 San Francisco Peace Treaty signed.

1952 MacArthur Line abolished.

1952 Law for Guarantee on Loans to Small-and Medium-Scale Fisheries (Law No. 346 of December 27, 1952) and Law for Special Account on Insurance Guarantee on Loans to Small-and Medium-Scale Fisheries (Law No. 347 of December 27, 1952) enacted. Under these two laws which are still in effect, the special account of the government budget guarantees loans extended by cooperatives to small-and medium-scale fisheries, including tuna fisheries.

1952 Law for Compensation of Fishing Vessel Damage became effective in 1952. Under this law which is also still in effect, the government appropriates "fishing vessel reinsurance" in the special account of the budget.

1953 Agriculture, Forestry and Fisheries Finance Corporation was established by the Japanese Government under the Agriculture, Forestry and Fisheries Corporation Law (Law No. 355 of December 29, 1952).

Article 1 of the Corporation Law provides, "the Corporation shall extend long-term and low-interest loans to those engaged in agriculture, forestry and fisheries in order to encourage their production and to whom cooperatives and city banks find it difficult to extend loans." (See tables 1 and 2.)

1967 Special Law for Promotion of Small-and Medium-Scale Fisheries (Law No. 59 of 1967) came into effect. Under this Law, as amended on June 1, 1972, (a) tuna-skipjack fishermen, (b) otter trawlers west of 130°E, (c) purse seiners, and (d) offshore drag netters are eligible for government loans and tax preferences. With regard to tuna-skipjack fishermen, the Law provides funds necessary for:

1. Constructing skipjack pole-and-liners in order to change from tuna longlining to skipjack fishing;

2. fishermen owning one to three tuna-skipjack fishing vessels to increase their fleet to four vessels for better management; and

3. installing labor-saving machines, including automatic skipjack jigging machine, aboard skipjack pole-and-line vessels.

Terms of loans provided by the Agriculture, Forestry and Fisheries Finance Corporation are as follows:

Interest rate - 6.5 percent per annum

Repayment - Within 12 years including 3-year grace period for steel vessels.

Maximum amount - 250 million yen per vessel or 75 percent of the building cost, whichever is lower.

As for tax preferences, tuna-skipjack fishermen can claim 150 percent of the fixed rate of depreciation each year over 5 years beginning June 1, 1972.

Note: Definition of "Small-and Medium-Scale Fisheries" is:

a. Employment is less than 500 fishermen per management.

b. Aggregate tonnage of fishing vessels owned is less than 3,000 gross tons per management.

TECHNOLOGICAL ADVANCES IN THE JAPANESE TUNA INDUSTRY SINCE MID-1950's

Tuna fishing

a. Line: Material changed from ramie to cotton and then to nylon. Use of nylon has greatly increased the durability of gear by about 50 percent over cotton line.

b. Labor-saving machines:

Belt conveyor: Developed in 1953. Resulted in manpower saving (from three to one) in handling catch.

Wire reel and line winder: Developed in 1964. Made possible reduction in crew from 30 to 22 or about one-quarter.

c. Freezing: Formerly catch preserved by ice chilling which can maintain fish quality for about 40 days. In 1953, brine freezing introduced; in 1967, quick freezing (50°C below zero) developed. Catch can be preserved for as many days as required under the brine and quick freezing methods. However, the difference of the two systems is the superior quality of fish preserved by the quick freezing method and the higher price paid for a quick frozen catch, especially for fish for the "sashimi" trade.

Skipjack fishing

a. Rod: From bamboo to glasswool. This change occurred because of the shortage of bamboo, although the price of a glasswool rod is higher than a bamboo rod.

b. Line: Ramie to nylon. Gear durability greatly increased.

c. Brine freezing: (See discussion under Tuna Fishing, freezing.)

d. Automatic jigging machine: Jigging machines are now being used widely. However, fishermen have different opinions regarding the efficiency of this equipment. Some claim only 70 percent of one man, others claim twice that of one man.

e. Holding of live bait: Through improvements in techniques, anchovies can be kept live 40 to 45 days at present, compared to 14 to 20 days in the past. In addition, Japanese skipjack fishermen have been conducting bait fish experiments, but they have not yet found suitable substitutes for anchovy.

Note: The primary source of the information contained in the text of this report was the Sekai Suisan Soran (World Fisheries Survey), 1965.

Table 1.--Terms of corporation loans to fisheries

Type of loan	Interest per annum Percent	Repayment Years	Grace period Years
1. Coastal fisheries			
a. Coastal boat	3.5-6.5	15	3
b. Synthetic net and fish culture	3.5-6.5	15	3
c. Facilities for joint use	7.5	20	3
2. Fishing port	5.0-6.5	20	3
3. Fishing vessel construction	6.5-7.5	15	3
4. Management stability (Repayment of old debts)	5.0	20	3
5. Facilities for joint use including ice and freezing plant and fish culture facilities	6.5-7.5	20	3
6. Minister's approval 1/ (Synthetic net and inland water-marine fish culture facilities)	6.5	15	3
7. Natural calamities (damage from lood, typhoon, etc.)	6.5	15	3

1/ Special category set up to cover activities not under categories 1-5.

Table 2.--Loans made by the corporation for construction of fishing vessels

Fiscal Year 1/	Tuna and skipjack	Otter trawl	High-seas & offshore trawl	Purse seine	Salmon	Other	Instrument	Total
	Million yen							
1952	79	0	0	67	0	288	0	434
1953	568	254	0	88	0	330	0	1,240
1954	1,624	289	0	0	0	424	0	2,337
1955	1,079	465	0	385	392	351	0	2,672
1956	1,104	318	447	865	12	441	12	3,199
1957	1,136	507	414	239	279	1,283	19	3,927
1958	1,415	550	300	106	410	627	14	3,422
1959	1,787	570	392	234	390	181	10	3,564
1960	1,026	779	430	386	319	279	7	3,525
1961	1,191	526	1,230	755	143	198	0	4,043
1962	4,311	437	986	853	359	111	1	7,058
1963	4,859	256	1,340	985	855	62	2	8,360
1964	1,854	546	1,679	1,030	1,277	127	16	6,529
1965	2,362	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	7,353
1966	3,421	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9,044
1967	4,823	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	12,988
1968	8,278	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	17,336
1969	10,754	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	22,101
1970	12,610	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25,359
1971	17,069	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	31,730
1972	18,519	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	34,011
1973	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

1/ Japanese fiscal year begins in April and extends to March of the following year.

Source: Agriculture, Forestry and Fisheries Finance Corporation.

Table 3.--Number and gross tonnage of Japan's tuna longline and skipjack pole-and-line fleet, 1960-72

Year	High seas vessels				Skiff-carrying mothership type		Adjacent water fleet 2/		Total	
	Full time		Seasonal							
	Number	Gross tons	Number	Gross tons	Number 1/	Gross tons	Number	Gross tons	Number	Gross tons
1960	1,129	218,278	217	16,330	0	0	0	0	1,395	238,614
1961	1,030	220,188	215	16,525	6	7,500	0	0	1,301	248,449
1962	1,095	224,573	220	17,155	26	32,973	0	0	1,341	274,708
1963	1,152	240,171	184	14,840	44	51,490	0	0	1,380	306,501
1964	1,149	247,991	166	13,957	50	55,055	1,708	64,390	3,073	381,393
1965	1,166	252,307	140	11,969	51	55,853	1,961	64,853	3,048	384,982
1966	1,152	251,939	134	11,645	47	46,283	1,679	66,031	3,012	375,898
1967	1,165	260,669	125	11,002	37	39,898	1,671	69,082	2,998	380,652
1968	1,161	271,908	122	11,024	35	34,633	1,634	71,234	2,952	388,799
1969	1,135	279,012	118	10,859	29	29,611	1,599	71,268	2,881	390,750
1970	1,131	288,973	117	10,846	23	23,232	1,565	72,502	2,836	395,519
1971	1,133	297,539	115	10,762	16	16,415	1,520	73,674	2,784	398,390
1972	1,133	302,738	111	10,462	9	9,528	1,318	72,069	2,565	394,795
	(80)	(20,773)	(0)	(0)	(0)	(0)	(103)	(4,163)	(183)	(24,938)

1/ Excludes skiffs.

2/ Vessels listed in this category previously included vessels ranging in size from 20 to 70 gross tons prior to 1971. In 1972, they were changed to include vessels up to 80 gross tons.

Figures in parenthesis for 1972 are Okinawa vessels, not included in total.

Source: "Katsuo to Maguro" No. 134 issued by the Federation of Japan Tuna Fisheries Cooperative Associations (NIKKATSUREN).

Table 4.--Average number of fishermen aboard Japanese tuna vessels

Vessel type	Vessel size	Fishermen					
		1967	1968	1969	1970	1971	1972
	Gross tons	Number					
Tuna longline	20 - 29	11	n.a.	9	8	11	12
	30 - 49	15	n.a.	14	14	14	12
	50 - 69	n.a.	n.a.	16	16	15	14
	70 - 99	n.a.	20	20	20	20	19
	100 - 199	24	24	24	23	22	21
	200 - 499	27	26	25	24	n.a.	24
	500 - 1,000	38	37	34	27	26	24
Skipjack pole-and- ine	20 - 29	17	n.a.	16	19	14	n.a.
	30 - 49	24	n.a.	22	22	21	22
	50 - 99	32	30	25	24	23	24
	100 - 199	42	39	35	34	35	35
	200 - 500	40	37	34	34	35	36

Source: "Katsuo to Maguro" No. 134 issued by NIKKATSUREN.

Table 5.--Monthly wages and allowances of Japanese tuna fishermen (deck workers only)

Year	Vessel size	Tuna longline		Skipjack pole-and-line	
		Wage 1/	Boarding allowance	Wage 1/	Boarding allowance
	Gross tons	Yen	Yen	Yen	Yen
1966	20 - 49	41,727	1,108	35,159	666
	50 - 199	41,605	5,846	48,708	1,434
	100 - 299	48,804	7,700	48,475	2,991
	300 - 500	57,154	8,752	57,509	8,644
	Over 500	58,450	9,293		
1967	20 - 49	38,124	842	37,906	1,499
	50 - 99	41,665	6,561	41,586	2,319
	100 - 299	50,082	7,774	44,826	3,461
	300 - 500	60,808	n.a.	59,130	4,293
	Over 500	57,374	8,576		
1968	---	---	Not available	---	---
1969	20 - 49	47,050	1,319	51,291	2,247
	50 - 99	54,726	4,799	57,305	4,682
	100 - 299	69,762	11,016	67,385	6,348
	300 - 500	74,924	13,836	81,320	13,401
	Over 500	74,523	14,158		
1970	---	---	Not available	---	---
1971	20 - 49	62,212	2,195	89,692	2,735
	50 - 99	80,726	6,249	106,907	3,897
	100 - 299	98,582	13,256	115,152	6,743
	300 - 500	111,514	14,666	143,245	21,172
	Over 500	107,211	15,849		
1972	---	---	Not available	---	---

1/ Includes fixed salary plus catch bonus.
Note: 360 yen = US$1.00.
Source: "Katsuo to Maguro" Nos. 120, 124, 128, and 130 issued by NIKKATSUREN.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington, D.C. 20235

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-210